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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,528	07/28/2003	Deming Liu	P/4076-57	4308

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EXAMINER

MAI, NGOCLAN THI

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,528

Applicant(s)

LIU ET AL.

Examiner

Ngoclan T. Mai

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-22 is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Jatkar et al.

Jatkar et al discloses a process for making composite material comprising particles of a malleable matrix material such as aluminum alloy and particles of a reinforcing material such as carbide or an oxide or an intermetallic. The reinforcing particles are taught to have an average particle size of about 3 μm and enfolded in and bonded with the metal matrix in the amount ranging from 0.2 to 30 % by volume. See abstract and col. 6, lines 13-16. In col. 4, lines 2-16 Jatkar et al discloses employing reinforcing materials which include boron carbide and aluminum oxide. Note that boron carbide is B_4C which is disclosed in col. 7, line 38 to col. 8, line 2 and aluminum oxide is Al_2O_3 as conventionally known in the art. Also note that the aluminum alloy disclosed by Jatkar et al in col. 3, lines 42-44 includes the type of aluminum alloy claimed in claim 3. While Jatkar et al discloses the process employing B_4C and SiC as examples, the process taught would also applicable to other reinforcing material such as Al_2O_3 .

Claim Rejections - 35 USC § 103

3. Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jatkar et al. in view of Carden et al. (US patent 6,098,700).

Jatkar et al discloses composite material substantially as claimed. The difference between the claims and Jatkar et al is that Jatkar et al does not specifically teach AlN as reinforcing material.

However it is well known in the art to employ aluminum nitride (AlN) as reinforcing material to aluminum metal and alloy. See Carden, col. 4, lines 53-60.

Since Carden et al discloses AlN is conventionally known in the same field of endeavor or the analogous metallurgical art as reinforcing material, the employment of the known AlN as reinforcing material to the aluminum alloy matrix taught by Jatkar et al would have been obvious. *The use of conventional materials to perform their known functions in a conventional process is obvious. In re Raner, 134 USPQ 343 (CCPA 1962).*

Response to Arguments

4. Applicant's arguments filed 11/22/04 have been fully considered but they are not persuasive regarding claims 1, 3 and 4. It is submitted by the applicant that Jatkar does not disclose the reinforced particle selected from the Markush group consisting of B₄C, Al₂O₃ and AlN and does not suggest use of such components as reinforced particle.

The examiner must disagrees in that Jatkar does teach at least two out of three reinforced particles selected from the Markush group claimed by the applicant. See Jatkar, abstract and col. 4, lines 2-16. It would also be obvious to employ AlN as

reinforcing material as this material is well known in the art for use as reinforcing aluminum metal or aluminum alloy matrix.

As for claims 5-22 of the instant application, applicant's argument, on page 8, first paragraph is persuasive. The rejection of these claims is withdrawn.


Conclusion

5. Claims 5-22 are allowable.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoclan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ngoclan T. Mai
Primary Examiner
Art Unit 1742